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DEPARTMENT OF COMMUNITY,
TRADE AND ECONOMIC DEVELOPMENT



Green Power Programs in Washington: A Report to the Legislature

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Executive Summary

Washington State law directs its larger electric utilities to offer their customers a green power electricity product that customers may voluntarily purchase. The results of these utility programs are presented here for the legislature's review.

RCW 19.29A.090, signed into law in 2001, directed 16 of Washington's electric utilities to offer their customers a voluntary "qualified alternative energy resource" (essentially an electricity product powered by renewable green resources) by January 2002. The statute calls for the utilities to report annually on the progress of these voluntary green power programs to the Department of Community, Trade and Economic Development and the Washington Utilities and Transportation Commission (collectively referred to as the "agencies"). This is the third reporting year. The following are key findings:

- All 16 utilities that fall under the jurisdiction of the statute have submitted data for this report. All but one utility have an active program with customers participating. Additionally, small utilities are not mandated to offer such green power programs, but Orcas Power and Light does and has shared its data with the agencies.
- Between January and September 2004, customers purchased 65,588,570 kilowatt-hours (kWh), or 7.49 average megawatts (aMW), of green power through voluntary green power programs. Annualized, this represents a 67% increase over 2003 green power program sales.
- Wind-powered electricity represented 86.5% of the YTD green power sales, or 56,719,556 kilowatt-hours (6.47 aMW).
- 26,341 utility customers in Washington are participating in these voluntary utility programs. This is a 48% increase in customer participation since 2003 and a 116% increase since 2002.

Apart from these green power programs, Washington's electric utilities included in their standard rate base power sales to all of their retail customers 35.7 aMW of wind power, 49.6 aMW of biomass fueled electricity and 8.6 aMW of electricity generated from landfill gas in 2003. Based on the most recent rate-based renewable electricity sales data (2003) and the most recent voluntary green program sales data (YTD 2004), we estimate that Washington's annual non-hydropower renewable electricity sales are approximately 101 aMW or one percent of utility retail electricity sales in Washington.

Introduction

Engrossed House Bill 2247, enacted in 2001¹, required electric utilities in Washington State to offer their retail customers an option to purchase qualified alternative energy resources -- often

¹ L2001, ch. 214.

referred to as “green power.”² This legislation also mandated that between 2002 and 2012 the electric utilities³ must annually report details of their green power programs to the agencies. Upon receipt of the data, the agencies must annually prepare and submit a report to the Legislature. This report provides an update on implementation of green power programs using complete data for 2003 and January through September data for 2004. It provides a short overview of each utility’s program, participation levels, program revenues and electricity sales.

To facilitate the utility reporting process, the agencies surveyed 17 consumer-owned and investor-owned electric utilities in the state. All 16 utilities which were required to respond did so and one small utility, Orcas Power and Light, responded voluntarily.

Background

The statute gives utilities two options to provide qualified alternative energy resources: green power itself or green tags/credits. An idea first promoted by power marketers in the mid-1990s, green tags are a type of currency used in the electricity industry to represent the environmental and social benefits of clean electricity production. They are also sometimes called “tradable renewable energy certificates” or “renewable energy credits.” A green tag with the environmental attributes of a renewable resource is separated from the electricity produced and is sold as a distinct product. One product is unlabeled electricity; the other product (the green tag) represents the environmental attributes equivalent to the amount of renewable electricity produced.

Buying green tags has a similar effect as buying green power (e.g., wind or solar power) except that the purchaser does not need to schedule or transmit the green power to a specific distribution utility or customer. Avista, Cowlitz County PUD, Puget Sound Energy, Seattle City Light and Snohomish County PUD sell green tags for their green power programs. In addition to utility-sponsored programs, 40 customers in the state have bought a total of 582 tags, representing 582 megawatt hours, directly from a northwest green power marketer and spent a total of \$9,000.⁴

In 1999, the Bonneville Power Administration (BPA) began to sell a resource-specific electricity product, referred to as Environmental Preferred Power or EPP, to wholesale customers. EPP included a mix of renewable resources except large-scale hydropower. Some utilities in Washington, particularly a handful of small electric utilities, began to purchase EPP prior to the establishment of green power programs and continue to purchase it. This product ensured that BPA’s utility customers had ready access to a specific green power product.

Many Washington utilities offer a “block” option to participants in their green power programs. A “block” of power refers to a specific number of kWh aggregated into a block; the participant pays a flat rate for this block of power. Customers have the option of buying one or many blocks of green power each month. For example, Snohomish County PUD sells blocks consisting of 150 kWh of wind power tags for \$3/block.

² The requirement is codified in RCW 19.29A.090. A “qualified alternative energy resource” is electricity produced from generation facilities fueled by wind, solar energy, geothermal energy, landfill gas, wave or tidal action, gas produced during the treatment of wastewater, qualified hydropower or biomass. RCW 19.29A.090(3).

³ Small (or rural) utilities were exempted. A “small utility” is any consumer-owned utility with 25,000 or fewer electric meters in service, or that has an average of seven or fewer customers per mile of distribution line. RCW 19.29A.010(30).

⁴ These figures are not included in the utility totals.

Overview of Survey Results

All of the responding utilities had green power programs in 2004. All programs appear active except one. Table 1 shows a summary of state-level results for 2002, 2003, and an annualized estimate based on the first nine months of 2004. Participation, revenue and kilowatt-hour sales within the state have each increased in the second and third years of the program.

Table 1 - Washington State Summary Data

	2002	2003	2004 Estimate*	% Change from 2002 to 2004	% Change from 2003 to 2004
Total kWh sales of green power	19,762,528	51,924,642	86,842,731	339%	67%
Total revenue from green power programs	\$632,282	\$1,254,067	\$1,842,445	191%	47%
Total number of participants	12,196	17,795	26,341	116%	48%

* Annual 2004 estimate is based on actual data for January through September.

The program descriptions are summarized in Table 2. The programs are offered to all customers. The most common option offered by the utilities to their customers is the purchase of a block or multiple blocks of qualified alternative power. The products vary in price, ranging between \$0.003/kWh and \$0.56/kWh. Avista recently reduced its price from \$1 per 55 kWh block in 2003 to \$1 per 300 kWh block in mid 2004.

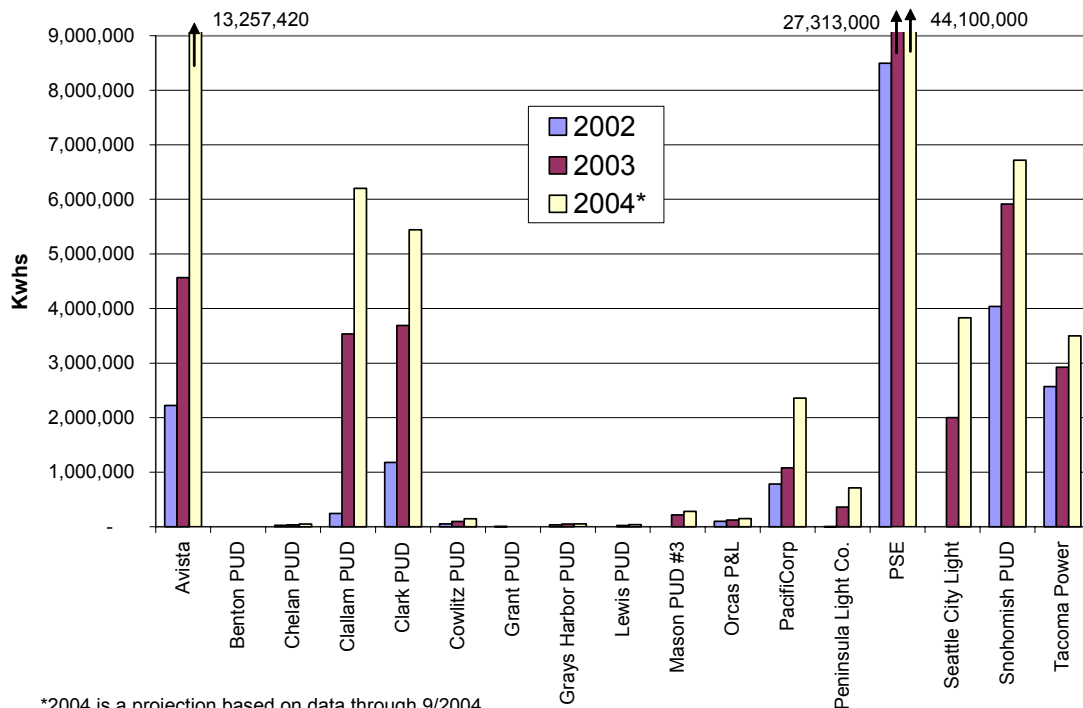
Table 2 - Description of Utility Green Power Programs

Utility Name	Program Name	Program Description
Avista	Buck a Block	\$1/300 kWh block of Stateline Wind green tags
Benton PUD	Green Power Program	Contributions of \$1/month sought for Klickitat Landfill gas power
Chelan	SNAP (Sustainable, Natural, Alternative Power)	Contributions of \$2.50-7.50/month pay for qualified locally-generated power projects
Clallam	No name	Resource mix with Klickitat Landfill gas sells for rate of 6.9 cents/kWh
Clark	Green Lights	\$1.50/100 kWh block of green tags from BPA
Cowlitz	Renewable Resource Energy Supplement	\$2/100 kWh block of Bonneville Environmental Foundation (BEF) green tags
Grant	Alternative Energy Resources	\$2/100 kWh block from Nine Canyon Wind Project
Grays Harbor	Green Power Program	\$3/100 kWh block from Nine Canyon Wind Project
Lewis	Green Power Program	\$2/100 kWh block from Nine Canyon Wind Project
Mason PUD 3	Mason Evergreen Power	\$2/100 kWh block from Nine Canyon Wind Project
Orcas Power and Light	Go Green	\$3.50/100 kWh block which includes locally-generated renewable energy supplemented with BPA Environmentally Preferred Power

PacifiCorp	Blue Sky	\$1.95/100 kWh block of wind power
Peninsula	Green Choice	\$2.80/100 kWh block of BPA Environmentally Preferred Power
Puget Sound Energy	Green Power Plan	\$2/100 kWh block of BEF green tags
Seattle City Light	Seattle Green Power	Historical product is a monthly or one-time contribution used to purchase locally generated renewable energy. In 2004, began selling BEF green tags to larger customers for \$15/MWh.
Snohomish	Planet Power	\$3/150 kWh block of BEF green tags
Tacoma Power	EverGreen Options	1.5 cents/kWh increments for BPA Environmentally Preferred Power

Between January and September 2004, total green power program sales were 65,588,570 kWh (7.49 aMW). Eighty-seven percent of the power offered in these programs is wind power. The total quantity of wind-generated power sold through the programs was 56,719,556 kWh. Additionally, the programs sold 5,947,881 kWh of electricity generated from landfill gas, 2,040,093 kWh of electricity generated from dairy biogas and biomass, 462,241 kWh of endorsed hydro-electricity and 418,799 kWh of solar electricity.

Figure 1 – Green Power Program kWh Sales



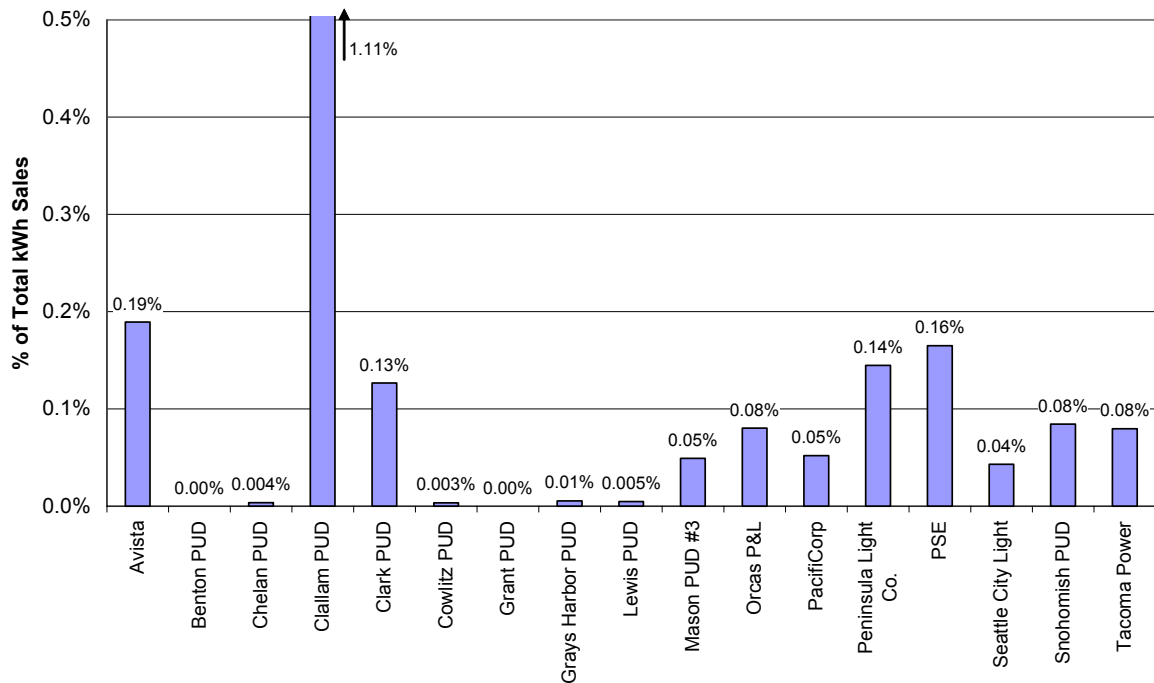
*2004 is a projection based on data through 9/2004

Note: Benton PUD has a contribution-based program and is unable to provide sales data. Seattle City Light is transitioning from a contribution-based program to include a green-tag fixed price program.

Figure 1 provides the amount of green power sold by each of the utilities in the first three years of the program. To compare data, the agencies have estimated⁵ the total customer purchases of green power through these programs in 2004 to be 86,842,731 kWh, or 9.9 aMW. It may appear that some utilities have no green power sales. Actually, Grant County PUD is the only utility that reports no customers, no sales and no revenue from a specific green power program. Benton County PUD operates a contribution-based program and is unable to provide data on actual kWh sales. Seattle City Light has historically offered a contribution-based program but in mid 2004 began transitioning to a green-tag, fixed-price program. Currently, Seattle City Light is selling green tags to larger customers. A few utilities report a small volume of sales that are hard to discern in Figure 1.

Figure 2 provides the green power sales as a percentage of total utility retail sales to indicate relative activity at each utility and the resulting sales to customers for different types of programs. Clallam PUD, Avista, and Puget Sound Energy have the three highest green power sales penetration rates.

Figure 2 - Green Power Sales as a Percent of Total Utility Sales,* 2004



*Based on 2004 green power sales as a % of 2003 total utility sales

Note: Benton PUD has a contribution-based programs and was unable to provide sales data. Seattle City Light is transitioning from a contribution-based program to a rate-based program.

Consumer-owned utilities often purchased more new renewable power than they sold through their green power programs. In that situation, the power was rolled into their general resource mix and sold to all of the utility's customers. This report focuses on purchases made for the green power programs. However, in addition to the voluntary programs, twenty-three electric utilities acquired non-hydropower renewable resources in 2003 to serve electricity to all their customers. The state's fuel mix disclosure data indicates

⁵ Actual data is available through September 2004. Annual sales for 2004 were estimated based upon sales continuing at current levels.

that these utilities sold 35.7 aMW of wind power and 49.6 aMW of biomass fueled electricity, and 8.6 aMW of electricity generated by landfill gas in 2003 to all of their Washington retail customers.⁶

Figure 3 indicates the level of customer participation by utility as a percentage of total customers. Orcas Power and Light Company has the highest participation rate at 5.07%, followed by Chelan County PUD at 1.95%, Puget Sound Energy at 1.39, and Seattle City Light at 1.12%. Statewide, there are 26,341 customers (one percent of eligible customers) voluntarily making the decision to purchase these differentiated green power products in the third year of the programs.

Figure 3 - Customer Participation Rate in Green Power Programs 2002-2004

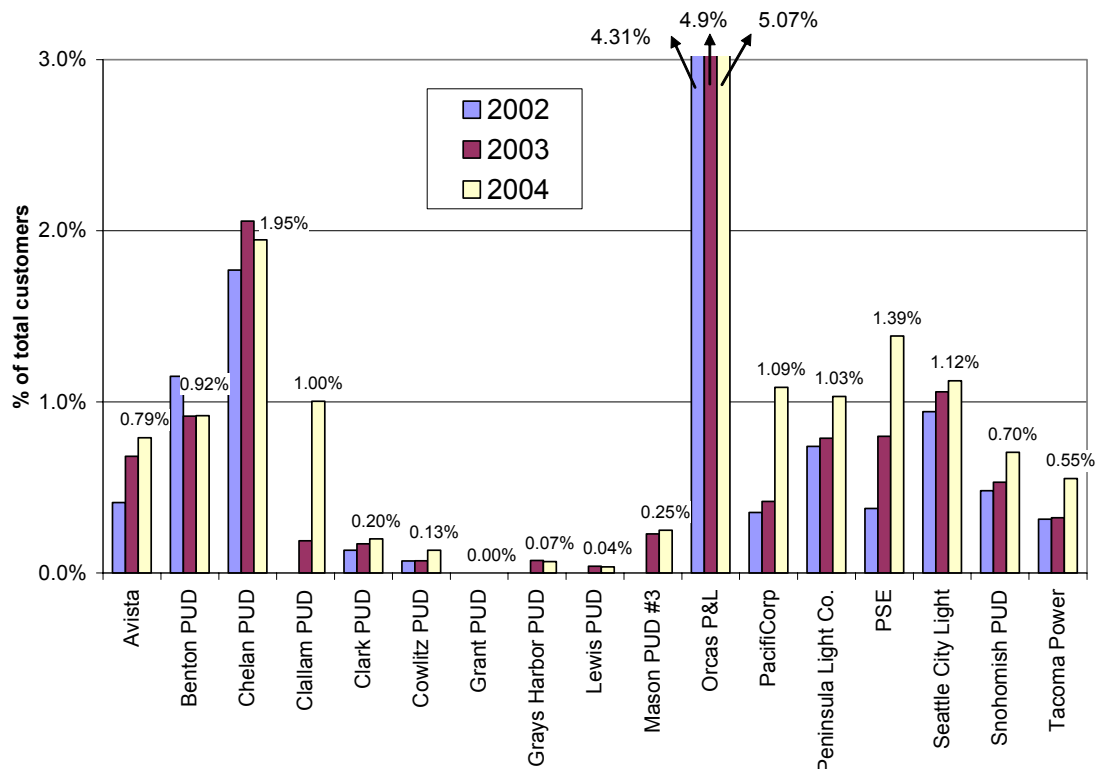
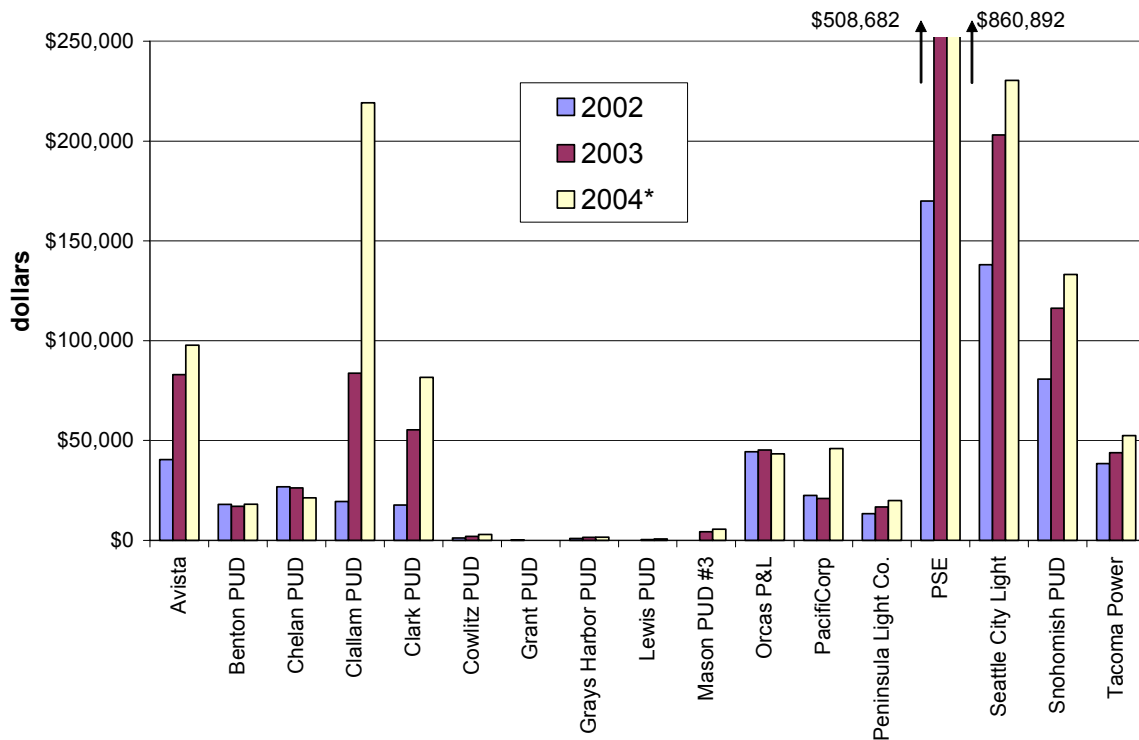


Figure 4 reports annual revenues from green power sales by utility for 2002, 2003 and 2004, indicating that 14 of the programs have grown since last year. Total revenue from Washington ratepayers' purchases and contributions of green power from these optional programs was \$1,254,067 in 2003 and is estimated to increase 46% to \$1,842,445 in 2004. Actual reported revenue for January through September (or through August for a few utilities) of 2004 was \$1,380,494.

⁶ Fuel Mix Disclosure Process, facilitated by the Department of Community, Trade and Economic Development, Spring 2004, <http://www.cted.wa.gov/DesktopDefault.aspx?TabId=73>.

This revenue figure does not reflect the total cost of the electricity. Instead, it typically reflects the above-market cost of the renewable resource power and frequently includes the costs of program administration and marketing. The notable exception to this is that Clallam County PUD charges its green power customers one inclusive rate for distribution, transmission, and power. Therefore, Clallam County PUD's program revenues represent the total cost of the electricity, not just the incremental cost.

Figure 4 - Revenues from Utility Green Power Programs for 2002, 2003 and 2004



*2004 is a projection based on data through 9/2004

Conclusions

These voluntary programs resulted in 65,588,570 kilowatt-hours or 7.49 aMW of green power sales in Washington for the first nine months of 2004. Utilities sold 56,719,556 kWhs of wind power, 2,040,093 kWh of electricity generated by biomass, 5,947,881 kWh of electricity generated from landfill gas, 418,799 kWh of solar-electricity, and 462,241 kWh of endorsed hydro-electricity through their programs. If these sales continue for the remainder of the year, estimated sales for 2004 will equal 9.91 aMW and will result in a 67% increase in sales over 2003 and a 339% increase since 2002.

For further details on an individual utility's program, see the Appendix of the 2002 Green Power Report at www.energy.cted.wa.gov under "Publications."